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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

RICOH COMPANY, LTD.,

Plaintiff,

vs.

AEROFLEX INCORPORATED, et al.,

Defendants

SYNOPTIS, INC.,

Plaintiff,

vs.

RICOH COMPANY, LTD.,

Defendant.

CASE NO. C-03-4669-MJJ (EMC)
CASE NO. C-03-2289 MJJ (EMC)

**RICOH'S OPPOSITION TO DEFENDANTS'
NOTICE OF MOTION AND MOTION FOR
SUMMARY JUDGMENT OF NON-
INFRINGEMENT (HARDWARE CELLS)**

REDACTED PUBLIC VERSION

Date: September 26, 2006
Time: 9:30 a.m.
Courtroom: 11, 19th Floor
Judge: Martin J. Jenkins

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	BACKGROUND	2
A.	RICOH’S INFRINGEMENT POSITION	2
B.	INTRINSIC EVIDENCE OF “HARDWARE CELLS” FROM THE ‘432 PATENT	6
C.	EXTRINSIC EVIDENCE OF “HARDWARE CELLS”	7
D.	‘432 PATENT DISCLOSURE OF CELL SELECTION PROCESS	8
III.	LEGAL STANDARDS	9
IV.	ARGUMENT	11
A.	RICOH’S APPLICATION OF THE TERM “HARDWARE CELLS” TO THE USE OF THE DESIGN COMPILER SYSTEM RAISES A MATERIAL ISSUE OF FACT UNDER ANY CLAIM INTERPRETATION	11
1.	The Contents of the Technology Libraries Need to be Determined ..	12
2.	Selection of “Hardware Cells” Needs to be Determined	14
B.	DEFENDANTS ARE READING LIMITATIONS FROM THE ‘432 PATENT SPECIFICATION INTO THE CLAIMS	15
C.	DEFENDANTS’ MOTION IS BASED ON INCORRECT ASSUMPTIONS REGARDING THE ‘432 PATENT	18
1.	Incorrect Reading of the Specification	18
2.	Incorrect Reading of the Claims	19
D.	RICOH’S APPLICATION OF THE TERM “RULES” TO THE USE OF THE DESIGN COMPILER SYSTEM REMAINS A MATERIAL ISSUE OF FACT	22
V.	CONCLUSION	24

TABLE OF AUTHORITIES

CASES

<i>AFG Indus. v. Cardinal IG Co.</i> , 375 F.3d 1367 (Fed. Cir. 2004).....	9
<i>ATD Corp. v. Lydall, Inc.</i> , 159 F.3d 534 (Fed. Cir. 1998).....	10
<i>Amhil Enters. Ltd. v. Wawa, Inc.</i> , 81 F.3d 1554 (Fed. Cir. 1996)	11
<i>Amini Innovation Corp. v. Anthony California, Inc.</i> , 439 F.3d 1365 (Fed. Cir. 2006).....	11
<i>Anderson v. Liberty Lobby, Inc.</i> , 477 U.S. 242 (1986)	9, 10, 11
<i>Avia Group Intern., Inc. v. L.A. Gear California, Inc.</i> , 853 F.2d 1557 (Fed. Cir. 1988)	11
<i>Brown v. City of Oakland</i> , 2006 U.S. Dist. LEXIS 45682 (N.D. Cal. 2006)	13, 14, 15
<i>Burke, Inc. v. Bruno Indep. Living Aids</i> , 183 F.3d 1334 (Fed. Cir. 1999).....	25
<i>Cont'l Can Co. v. Monsanto Co.</i> , 948 F.2d 1264 (Fed. Cir. 1991).....	9
<i>Eli Lilly & Co., v. Aradigm Corp.</i> , 376 F.3d 1352 (Fed. Cir. 2004).....	12
<i>Helifix Ltd. v. Blok-Lok, Ltd.</i> , 208 F.3d 1339 (Fed. Cir. 2000).....	11
<i>Hilgraeve Corp. v. McAfee Assocs.</i> , 224 F.3d 1349 (Fed. Cir. 2000)	10
<i>Hodosh v. Block Drug Co.</i> , 786 F.2d 1136 (Fed. Cir. 1986).....	10
<i>KCJ Corp. v. Kinetic Concepts, Inc.</i> , 223 F.3d 1351 (Fed. Cir. 2000).....	20
<i>MEMC Elec. Materials, Inc. v. Mitsubishi Materials Silicon Corp.</i> , 2006 U.S. Dist.	
LEXIS 9353 (N.D. Cal. Feb. 24, 2006)	10, 13, 14, 22
<i>Netword, LLC v. Centraal Corp.</i> , 242 F.3d 1347 (Fed. Cir. 2001)	10

1	<i>Omega Eng'g, Inc. v. Raytek Corp.</i> , 334 F.3d 1314 (Fed. Cir. 2003).....	18
2	<i>Pfizer, Inc. v. Teva Pharms.USA, Inc.</i> , 429 F.3d 1364 (Fed. Cir. 2005)	24
3	<i>Pitney Bowes, Inc. v. Hewlett-Packard Co.</i> , 182 F.3d 1298 (Fed. Cir. 1999).....	9
4		
5	<i>Primos, Inc. v. Hunter's Specialties, Inc.</i> , 451 F.3d 841 (Fed. Cir. 2006).....	17, 25
6	<i>Sandisk Corp. v. Memorex Prods.</i> , 415 F.3d 1278 (Fed. Cir. 2005)	24
7		
8	<i>Scosche Indus. v. Visor Gear</i> , 121 F.3d 675 (Fed. Cir. 1997).....	10
9	<i>State Mut. Life Assurance Co. v. Deer Creek Park</i> , 612 F.2d 259 (6th Cir. 1979)	10
10	<i>Vitronics Corp. v. Conceptronic, Inc.</i> , 90 F.3d 1576 (Fed. Cir. 1996).....	24
11		
12	<i>Vivid Techs., Inc. v. American Science & Eng'g, Inc.</i> , 200 F.3d 795 (Fed. Cir. 1999).....	13

REGULATIONS

14	Fed. R. Civ. P. 56(c)	9
15		
16	Fed. R. Civ. P. 56(e)	10, 13, 14

I. INTRODUCTION

Synopsys and the ASIC Defendants (collectively referred to herein as “Defendants”) have submitted a Motion for Summary Judgment on non-infringement (“Defendants Motion”) which is nothing more than a veiled attempt to deny Ricoh’s right to a jury trial by recasting non-infringement arguments as claim interpretation issues. Defendants ask this Court to go beyond a plain and ordinary meaning of the term “hardware cells,” as used in claim 13 of U.S. Patent No. 4,922,432 (“the ‘432 patent”) (Brothers Dec. Ex. 26, ‘432 patent) and define the term so restrictively that no skilled artisan—particularly not industry leader, Synopsys— would ever find it feasible to use in practice. So intent on avoiding a jury trial on the issue, Defendants even ask this Court to define terms (i.e., application of “cell selection rules”) in a manner that would actually *exclude* a preferred embodiment of the ‘432 patent.

Nevertheless, Defendants miscalculate their position, and fail to recognize that material issues of fact continue to exist despite Defendants’ recasting efforts. In particular, there is a material issue as to whether technology libraries have components that meet the claimed “hardware cells” limitations (regardless of the definition of the term “hardware cells”), and whether the Defendants use the Design Compiler System to select a “hardware cell” (regardless if interpreted as a single circuit configuration (*e.g.*, ripple carry adder), or interpreted to include a part of such a circuit configuration (*e.g.*, AND gate used with a ripple carry adder)).

Moreover, the Motion for Summary Judgment can (and should) be defeated because it is based on an inappropriate interpretation of the claims, incorrect reading of the ‘432 patent specification, inaccurate reading of the plain language of claim 13, and an unsubstantiated attempt to read out of the claims a preferred embodiment of the ‘432 patent.

II. BACKGROUND

The issue of non-infringement implicated in Defendants' Motion brings to light the inherent complexity of the infringing process, in which the party experts on infringement (Dr. Donald Soderman, for Ricoh; and Dr. Albert E. Casavant, for Defendants) are often at odds with each other. As will be discussed below, and in the subsequent "Argument" section, a number of fundamental, and thus material, issues of fact remain in dispute.

A. Ricoh's Infringement Position¹

Ricoh's position on infringement is a straightforward application of the claims, as interpreted by the Court, to the processes at issue. The Court construed the pertinent claim limitation, "selecting from said stored data for each of the specified definitions a corresponding integrated circuit hardware cell" to mean – "mapping the specified stored [definition]² to a corresponding stored hardware cell." In its infringement contentions, Ricoh applied this easily understood interpretation to each accused process (*i.e.*, use of the Design Compiler System by ASIC Defendants).³

¹ Evidentiary support for this description of the infringing process can be found in Ricoh's Final Infringement Contentions; Ricoh's Written Reports Of Donald Soderman On Infringement ("Soderman Report"); and also in the Declaration of Donald A. Soderman filed concurrently with this Opposition ("Soderman Declaration"). The Soderman Declaration is provided to address a number of issues raised in the Declaration of Albert E. Casavant ("Casavant 8/18/06 Declaration") submitted by Defendants in support of their Motion.

² Ricoh respectfully submits that the term "specified stored function" was incorrectly included in the Court's Claims Construction, where it was intended to refer to the term "specified stored *definition*." In its Claims Construction Order, the Court appeared to have ruled substantially in favor of the ASIC Defendants, and attempted to adopt their proposed language. (Brothers Dec. Ex. 28, Claim Construction Order at 19-20.) The ASIC Defendants had proposed that the term "specified stored *definition*" be used. At no time had any of the parties, or the Court, indicated that the term "function" should be substituted for the original term "definition" in the context of claim 13. Ricoh's exhibits to all of their oppositions to the motions for summary judgment are attached to the September 1, 2006 declaration of Kenneth W. Brothers.

³ Defendants make salacious remarks about how Ricoh defines the term "hardware cells" to be simple, basic logic gates ("primitives") "solely because the Target Technology libraries used by the Customer Defendants only contain primitive logic gates, and without regard to the meaning of the claims." Defendants Motion at 5. Defendants are wrong on many levels. Most importantly, Ricoh defines the term "hardware cells" to be commensurate with the plain and ordinary meaning of the term, which

[REDACTED]

Ricoh submits includes primitives, as well as more complex, technology-specific hardware components (e.g., adders).

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4 [REDACTED]
5 [REDACTED]

6 B. Intrinsic Evidence of “Hardware Cells” from the ‘432 Patent

7 The ‘432 patent specification discloses the use of data describing technology-specific
8 representations of hardware components needed to perform a desired function. *See, e.g.*, (Brothers Dec.
9 Ex. 26, ‘432 patent at column 9, lines 21-60.) The listing of “Macros” in Table 1 of the ‘432 patent
10 (column 7, lines 29-49) includes a NEGATE(A) operator, which defines the function of negating or
11 inverting the logic of input signal A. According to Dr. Soderman, one of ordinary skill in the art would
12 not attempt to include in a cell library anything other than a simple logic gate such as an “inverter” gate
13 (or a one-input NAND gate) to perform the “negating” or “inverting” function. Soderman Declaration at
14 ¶ 27. Simple, basic Boolean gates such as “inverters” and NAND gate are the classic examples of
15 “primitives.” *Id.*

16 The cell library for the preferred embodiment is disclosed as containing, *inter alia*,
17 “functional level information: description of the cell at the register transfer level” and “logic level
18 information: description in terms of flip-flops and gates.” (Brothers Dec. Ex. 26, ‘432 patent at column
19 9, lines 26-29.) [REDACTED]
20 [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]
24 [REDACTED]
25 [REDACTED]
26 [REDACTED]
27 [REDACTED]
28 [REDACTED]

1 If anything is apparent from the intrinsic evidence, it is that the term “hardware cells” must
2 include technology-*specific* information regarding the hardware component selected in order to be
3 included in the “netlist” generated in claim 13. The term “netlist” was construed by the Court to be: “a
4 description of the hardware components (and their interconnections) needed to manufacture the ASIC as
5 used by subsequent processes, *e.g.*, mask development, foundry.” (Brothers Dec. Ex. 28, Claim
6 Construction Order at 24.)

7
8 C. Extrinsic Evidence of “Hardware Cells”

9 As apparent from the evidence of record, the use of the term “hardware cell” in the ‘432
10 patent is consistent with the usage of the term by those of ordinary skill in the art. Dr. Soderman an
11 expert in the art, well-versed in the knowledge held by one of ordinary skill at the time of the invention,
12 is of the opinion that the term “hardware cells” would have a definite meaning to those of ordinary skill
13 in the art. Soderman Declaration at ¶ 17. *See also* (Brothers Dec. Ex. 4, Soderman Report at 20-21;
14 Brothers Dec. Ex. 32, Soderman Deposition Tr., Vol. I at 30-31.) He indicated that one of ordinary skill
15 in the art would recognize that the term refers to the technology-specific circuit components that “can be
16 used together to form the actual circuit that implements the functionality originally described in the
17 HDL description.” (Brothers Dec. Ex. 4, Soderman Report at 18.) Dr. Soderman testified that those
18 skilled in the art would know that such circuit components included (although are not limited to)
19 primitives such as AND gates, OR gates, NOT (“inverter”) gates, etc.

20
21 Patentee had not provided any specialized meaning to the term “hardware cells” in the ‘432
22 patent specification, or during prosecution of the ‘432 patent. The term “hardware cells” has
23 consistently been used in the art to refer to technology-specific circuit components, including primitives
24 such as AND gates, OR gates, and NOT gates. Defendants have failed to cite a single example in the art
25 to corroborate their restrictive interpretation of the term “hardware cell.”

26
27 Nothing in the specification, file history, or prior art cited during prosecution of the ‘432
28 patent evidences (or even suggests) that the patentee had disclaimed or otherwise disavowed the broader

1 meaning of the term “hardware cells.”

2
3 D. ‘432 Patent Disclosure of Cell Selection Process

4 In connection with the preferred embodiment, the ‘432 patent specification describes the
5 sequence in which the cell selection rules are applied. *See* (Brothers Dec. Ex. 26, ‘432 patent at column
6 9, lines 6-24 and column 10, lines 13-34.) As noted by Dr. Soderman, the ‘432 patent describes how the
7 input descriptions, containing the specified macros (“definitions of actions and conditions”), are
8 converted to an intermediate format (statelist), and how a blocklist, which contains a list of functional
9 blocks, is generated from the statelist. Soderman Declaration at ¶ 28. The patent then describes the use
10 of a cell selector to map the functional blocks to cells to form a cell list, and the further optimization of
11 the cell list, including the selection of optimum cells using optimization rules. Soderman Declaration at
12 ¶ 28. The preferred embodiment of the ‘432 patent, thus, does not require applying cell selection rules
13 *directly* to the specified macros. Soderman Declaration at ¶ 28. Instead, the rules are applied to a circuit
14 manifestation of the macros. Soderman Declaration at ¶ 28.

15
16 The ‘432 patent specification explicitly references the ability of the cell selector of the
17 preferred embodiment to select one *or more* hardware cells for a given function desired in the ASIC
18 under design. The patent specification states, for example, “The cell selector 32 selects from a cell
19 library 34 of previously designed hardware cells the appropriate cell *or cells* required to perform each
20 action and condition represented in the flowchart.” (Brothers Dec. Ex. 26, ‘432 patent at column 4, line
21 68 to column 5, line 3 (emphasis added).) Similarly, at column 8, lines 58-60, the ‘432 patent
22 specification states: “The Cell Selector uses a rule based expert system to select the appropriate cell *or*
23 *cells* to perform each action” (emphasis added). *See also* Soderman Declaration at ¶ 29. Neither the
24 preferred embodiment nor anything in the ‘432 patent (or file history) attempts to require a one-to-one
25 correspondence between a “hardware cell” and a corresponding function of the ASIC under design.
26 Soderman Declaration at ¶ 29.

III. LEGAL STANDARDS

Summary judgment is considered a drastic remedy and deprives a party of the right to a jury trial; courts, therefore, apply a strict standard of review. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 254-55 (1986). Summary judgment may properly be granted only where no genuine issue of material fact exists or where, viewing the evidence and inferences that may be drawn therefrom in the light most favorable to the party opposing summary judgment, the movant is clearly entitled to prevail as a matter of law. Fed. R. Civ. P. 56(c) (Summary judgment is granted if there is a showing that “there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law”); *Anderson*, 477 U.S. at 255 (“The evidence of the nonmovant is to be believed, and all justifiable inferences are to be drawn in his favor.”). Summary judgment is “to avoid a clearly unnecessary trial . . . not to substitute lawyers’ advocacy for evidence.” *Cont’l Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1265 (Fed. Cir. 1991).

There is a high standard for summary judgment motions in patent cases. “[S]ummary judgment of non-infringement can only be granted if, after viewing the alleged facts in the light most favorable to the non-movant, there is no genuine issue whether the accused device is encompassed by the claims.” *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1304 (Fed. Cir. 1999). Accordingly, “a trial court cannot reach a conclusive finding of noninfringement if the record shows some evidence supporting a finding of noninfringement and some evidence to the contrary.” *AFG Indus. v. Cardinal IG Co.*, 375 F.3d 1367, 1371 (Fed. Cir. 2004).

Summary judgment is improper when there is a conflict between expert opinions; a trial with the refining fire of cross-examination is a more effective means of arriving at a conclusion than perusal of *ex parte* declarations of experts. *Hodosh v. Block Drug Co.*, 786 F.2d 1136, 1143 (Fed. Cir. 1986); *Hilgraeve Corp. v. McAfee Assocs.*, 224 F.3d 1349, 1352-53 (Fed. Cir. 2000) (“[D]ifferences in the experts’ descriptions of [the allegedly infringing program] raise a genuine issue of material fact. The record shows a genuine and material conflict over the [operation of the program] arising from the

1 differing explanations. . . . Moreover the record does not conclusively describe [the operation of the
 2 program]. . . . The determination of whether either description (or neither) is correct requires a factual
 3 determination of the actual operation of the [program].”).

4 Summary judgment must be supported by “facts as would be admissible in evidence.”
 5 *MEMC Elec. Materials, Inc. v. Mitsubishi Materials Silicon Corp.*, 2006 U.S. Dist. LEXIS 9353, *20
 6 (N.D. Cal. Feb. 24, 2006) *citing* Fed. R. Civ. P. 56(e). In deciding on a summary judgment motion, the
 7 court may take into account any material that would be admissible or usable at trial, but inadmissible
 8 evidence may not be considered. *Scosche Indus. v. Visor Gear*, 121 F.3d 675, 682 (Fed. Cir. 1997) (“To
 9 be acceptable at summary judgment stage, the evidence presented in the affidavit must be evidence that
 10 would be admissible if presented at trial through the testimony of the affiant as a sworn witness,”
 11 *quoting* 11 James Wm. Moore, Moore's Federal Practice § 56.14[1][d], at 56-162 (3d ed. 1997))
 12 (“Affidavits [that] do not satisfy Rule 56(e) [] must be disregarded”) (*quoting State Mut. Life Assurance*
 13 *Co. v. Deer Creek Park*, 612 F.2d 259, 264-65 (6th Cir. 1979)).

15 A court may only grant summary judgment if no reasonable jury could agree with the non-
 16 movants' factual contentions. *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 540 (Fed. Cir. 1998). To
 17 support a motion for summary judgment on non-infringement, it must be shown that no reasonable jury
 18 could have found infringement on the undisputed facts or when all reasonable factual inferences are
 19 drawn in favor of the patentee. *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1353 (Fed. Cir. 2001)
 20 *citing Anderson*, 477 U.S. at 248. Consequently, a district court should approach the fact issues
 21 underlying a motion for summary judgment with great care. *Amhil Enters. Ltd. v. Wawa, Inc.*, 81 F.3d
 22 1554, 1557 (Fed. Cir. 1996).

24 Any doubts, inferences, or issues of credibility must be resolved against the movant. *Helifix*
 25 *Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 1345-46, (Fed. Cir. 2000). Additionally, evidence of the non-
 26 movant is to be believed and all inferences drawn in his favor. *Anderson*, 477 U.S. at 255. Even where the
 27 movant can make a *prima facie* showing by clear and convincing evidence based on the movant's
 28

particular interpretation of the facts, summary judgment is still improper if there are *any* genuine issues of material fact. *Helifix*, 208 F.3d at 1346, 1350 (vacating district court's summary judgment of invalidity due to genuine issues of material fact). "To overturn a summary judgment, the non-movant need only show that one or more of the facts on which the district court relied was 'genuinely in dispute' and was material to the judgment." *Amini Innovation Corp. v. Anthony California, Inc.*, 439 F.3d 1365, 1368 (Fed. Cir. 2006) *citing Avia Group Intern., Inc. v. L.A. Gear California, Inc.*, 853 F.2d 1557, 1561-62 (Fed. Cir. 1988) *citing Anderson*, 477 U.S. at 248.

IV. ARGUMENT

A. Ricoh's Application Of The Term "Hardware Cells" To The Use Of The Design Compiler System Raises A Material Issue Of Fact Under *Any* Claim Interpretation

As a preliminary note, Ricoh's infringement position, as typical of many patent infringement actions, merely presents a straightforward issue of fact: an application of the claims to an accused product or process. As described above, Ricoh's infringement contentions apply the plain and ordinary meaning of the terms in the claims of the '432 patent, including the Court's claim constructions, to the use of the Design Compiler System by ASIC Defendants. The fact that the hardware cells selected are individual logic gates ("primitives") that form a circuit configuration (*i.e.*, circuit implementation) required to perform a desired function, as opposed to the circuit configuration itself, does *not* convert the ordinary "factual" issue into an issue of "claim interpretation."⁶

Nevertheless, to the extent the Court believes that a formal definition of the term "hardware cells" must be determined by the Court, Ricoh respectfully submits that Defendants' Motion should be denied under *any* claim interpretation because several material issues of fact remain (regardless of the

⁶ If either party fails to request a claim construction hearing, there is a presumption that the meanings of the claim terms are clear. *Eli Lilly & Co., v. Aradigm Corp.*, 376 F.3d 1352, 1360 (Fed. Cir. 2004). Defendants have failed to previously move for a hearing on the term "hardware cells," and thus, should be precluded from seeking one at this late stage.

1 interpretation).

2 1. The Contents of the Technology Libraries Need to be Determined

3 Even under Defendants' more constricted definition of the term "hardware cell," (*i.e.*, a
4 *circuit component, whose logic function requires the use of more than one primitive*),⁷ material issues of
5 fact remain as to the actual *contents* of the technology libraries used by ASIC Defendants for the ASIC
6 products at issue. Defendants make conclusory statements in their Motion (and through their paid
7 witness, Dr. Casavant) that "the Target Technology libraries used by the ASIC Defendants only contain
8 primitive logic gates." Defendants Motion at 5. The implication in this statement is that the technology
9 libraries do not include circuit components, such as adders, "whose logic function requires the use of
10 more than one primitive" (*i.e.*, a "hardware cell," under Defendants restrictive definition), and hence,
11 any use of technology libraries would *not* infringe the claims of the '432 patent. Defendants, however,
12 provide *no* documentary or other corroborating evidence to support these conclusory statements and in
13 fact, the system would not know what primitive logic gates to even begin to use if it did not store
14 somewhere information about the circuitry (type of adder) to be designed. In order to dispose of this
15 highly contested litigation on summary judgment, Defendants must be held to their burden of providing
16 a showing of an absence of a genuine issue of fact. *Vivid Techs., Inc. v. American Science & Eng'g,*
17 *Inc.*, 200 F.3d 795, 806-07 (Fed. Cir. 1999) ("When the moving party does not have the burden of proof
18 on the issue that is the subject of the summary judgment motion . . . the movant nonetheless bears the
19 initial burden of coming forward with sufficient evidence to demonstrate that there is no material issue
20 of fact that would preclude summary judgment, and that it is entitled to judgment as a matter of law. If
21 the movant meets its initial burden, the burden of coming forward shifts to the party opposing the
22 motion. The [non-movant] does not . . . have the burden of establishing that it is entitled to judgment in
23 its favor; it need only show either that the movant did not establish that it is entitled to judgment on
24 undisputed facts or on the [non-movant's] version of the facts, or that there are material issues of fact
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28 ⁷ See, *e.g.*, Defendants Motion at 15.

1 which require resolution at trial.”). Ricoh respectfully submits that the mere assertion of a fact by
2 lawyers and a paid witness, without more, hardly meets that “heavy burden.” *MEMC Elec. Materials,*
3 *Inc.*, 2006 U.S. Dist. LEXIS 9353 at *20 (Summary judgment must be support by “facts as would be
4 admissible in evidence.”) *citing* Fed. R. Civ. P. 56(e); *Brown v. City of Oakland*, 2006 U.S. Dist. LEXIS
5 45682, *14 (N.D. Cal. 2006) (“unsupported statements do not constitute the substantial showing . . .
6 required to survive summary judgment.”).

As noted above, mere allegations of a fact cannot be sufficient to support Defendants "heavy burden" of proof on this Motion. *MEMC Elec. Materials, Inc.*, 2006 U.S. Dist. LEXIS 9353 at *20 (Summary judgment must be support by "facts as would be admissible in evidence.") *citing* Fed. R. Civ. P. 56(e); *Brown*, 2006 U.S. Dist. LEXIS 45682, at *14 ("unsupported statements do not constitute the substantial showing . . . required to survive summary judgment."). At the very least, a genuine disagreement between the party experts, and hence, a material factual dispute regarding the contents of the technology libraries used by ASIC Defendants, remains.

Thus, even if the Court somehow finds that the term "hardware cell" should be limited to the definition proposed by Defendants, material issues remain as to: 1) the relevant contents of the technology libraries used by ASIC Defendants; 2) whether "hardware cells," as defined by the Court would be found in such technology libraries; and 3) whether "geometric data" exist in the technology libraries.

2. Selection of "Hardware Cells" Needs to be Determined

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12 [REDACTED]
13 [REDACTED]
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15 [REDACTED]
16 Thus, regardless of whether the Court is to adopt the plain and ordinary meaning of the term
17 “hardware cell,” or is to adopt Defendants’ restrictive view, a material issue of fact remains to be tried
18 by the jury. For at least that reason, Defendants’ Motion for Summary Judgment should be denied.
19

20 B. Defendants are Reading Limitations From The ‘432 Patent Specification Into The Claims

21 In what appears to be Defendants’ standard formula for claim analysis first attempted (and
22 rebuffed) during the *Markman* Hearing, and now resurrected, Defendants attempt to introduce into
23 another claim term (*i.e.*, “hardware cells”) the exemplary details of a preferred embodiment in the ‘432
24 patent. Defendants, for example, eagerly point to the detailed description of a cell library used in
25 conjunction with the preferred embodiment disclosed in the ‘432 patent, noting that the ‘432 patent
26 describes different types of information that would otherwise be unnecessary if the term “hardware cell”
27 were to be interpreted to cover “primitive” logic gates. Defendants Motion at 8.
28

1 Even if it were assumed, for the sake of argument, that the cell library specifically detailed in
2 the '432 patent specification described a "hardware cell" that included a circuit configuration (such as an
3 adder), nothing in the '432 patent specification would preclude other embodiments of the invention from
4 encompassing circuit configurations of less complexity, including single gates (*e.g.*, "primitives" such as
5 AND gate, OR gate, NOT (inverter) gate, etc.). Indeed, the listing of "Macros" in Table 1 of the '432
6 patent (column 7, lines 29-49) includes a NEGATE(A) operator, which defines the function of negating
7 or inverting the logic of input signal A. Under the reasoning of Defendants, that negating function
8 would be mapped to an "inverter" cell. According to Dr. Soderman, one of ordinary skill in the art
9 would not attempt to include in a cell library anything other than an "inverter" gate to meet the
10 requirements for an "inverter" cell, and "inverter" cells are the classic example of a "primitive."
11 Soderman Declaration at ¶ 27. Thus, under Defendants' reasoning, the '432 patent itself suggests the
12 use of "primitives" as "hardware cells."

14 More importantly, however, the '432 patent specification *explicitly* references the ability of
15 the cell selector of the preferred embodiment to select one *or more* hardware cells for a given function
16 desired in the ASIC under design. The patent specification states, for example, "The cell selector 32
17 selects from a cell library 34 of previously designed hardware cells the appropriate cell *or cells* required
18 to perform each action and condition represented in the flowchart." (Brothers Dec. Ex. 26, '432 patent
19 at column 4, line 68 to column 5, line 3 (emphasis added).) Similarly, at column 8, lines 58-60, the '432
20 patent specification states: "The Cell Selector uses a rule based expert system to select the appropriate
21 cell *or cells* to perform each action" (emphasis added). According to Dr. Soderman, one of ordinary
22 skill in the art reading these statements would infer that the "hardware cell library" used in the preferred
23 embodiment incorporated cells such as primitives that would be combined to build circuit configurations
24 meeting the desired functions of the design. Soderman Declaration at ¶ 30. At the very least, according
25 to Dr. Soderman, one of ordinary skill would know there was no intent to limit the invention to a one-to-
26 one correspondence between a "cell" and a desired function to be included in the ASIC under design.
27
28

1 Soderman Declaration at ¶¶ 29, 36.

2 Nevertheless, ignoring the fact that one of ordinary skill in the art would infer the use of
 3 “primitives” from the ‘432 patent specification itself, restricting the term “hardware cell” to the
 4 constraints of a single embodiment, in the manner advocated by Defendants, is tantamount to reading
 5 limitations from the specification into the claims— a fundamental claim construction error proscribed by
 6 the Federal Circuit. *See, e.g., Primos, Inc. v. Hunter's Specialties, Inc.*, 451 F.3d 841 , 848 (Fed. Cir.
 7 2006) (“[W]e are mindful that we cannot import limitations from the preferred embodiments into the
 8 claim.”). Here, the Court has already declined to accept Defendants’ original invitation to perform such
 9 an (erroneous) analysis in the *Markman* Hearing, and Defendants’ have failed to provide any reason to
 10 modify this (correct) decision.⁸

12 Indeed, Defendants fail to cite a single piece of evidence to show that the plain and ordinary
 13 meaning of the term “hardware cells” cannot include cells that are in the form of primitives. Defendants
 14 fail to cite any basis for restricting the term “hardware cells” to the (allegedly) narrower presentation in
 15 the ‘432 patent specification— nor is there any. Patentee, for example, had not provided any specialized
 16 meaning to the term “hardware cells.” Nothing in the specification, file history, or prior art cited during
 17 prosecution of the ‘432 patent indicates (or even suggests) that the patentee had disclaimed or otherwise
 18 disavowed the broader meaning of the term “hardware cells” accepted in the art. *See, e.g., Omega*
 19 *Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325 (Fed. Cir. 2003) (“[D]isavowing statements [must] be
 20 both so clear as to show reasonable clarity and deliberateness, and so unmistakable as to be
 21

22
 23
 24 ⁸ *See, e.g.*, (Brothers Dec. Ex. 28, Claim Construction Order at 9, fn 6 (“Aeroflex’s reliance on the
 25 specification language to support its argument is not well taken. Aeroflex cites almost exclusively to
 26 language from the preferred embodiment. . . . However, in construing disputed claim terms, a limitation
 27 cannot be imported from the preferred embodiment into the claims themselves. *Markman*, 52 F.3d at
 28 980.”); 10 (refusing to limit claims to flowchart format of preferred embodiment); 18 (refusing to limit
 claims to “rules” that encompass “mapping” function found in preferred embodiment); 20 (refusing to
 limit to preferred embodiment); 22 (refusing to limit claims to “manually assigning definitions,” as in
 preferred embodiment); and 24 (refusing to require claim 13 to include “data and control paths” used in
 preferred embodiment).)

1 unambiguous evidence of disclaimer.”).

2 Because the plain and ordinary meaning of the term “hardware cells” cannot be restricted to
3 any exemplary embodiment described in the patent specification, and there is no evidence of disclaimer
4 or other disavowal limiting the definition, Defendants’ Motion for Summary Judgment must be denied,
5 as being based on a flawed attempt at claim interpretation.

6
7 C. Defendants’ Motion Is Based On Incorrect Assumptions Regarding The ‘432 Patent

8 Defendants’ Motion for Summary Judgment should be denied because it is based on
9 incorrect assumptions and conjecture regarding both the ‘432 patent specification and claims.

10 1. Incorrect Reading of the Specification

11 Nothing in the patent specification clearly supports Defendants’ contention that the ‘432
12 patent intended to exclude primitives from the use of the term “hardware cell.” Defendants rely solely
13 on the details of the preferred embodiment (Brothers Dec. Ex. 26, ‘432 patent at column 9, lines 21-34.)
14 in hopes of finding any support for narrowing the definition of “hardware cells.” In this cited passage,
15 the cell library for the preferred embodiment is disclosed as containing, *inter alia*, “functional level
16 information: description of the cell at the register transfer level” and “logic level information:
17 description in terms of flip-flops and gates.” *Id.* In their attempts to build a case for narrowing the
18 interpretation, Defendants argue: “Storing this information for a cell makes sense if the cell is an adder
19 corresponding to ADD, but makes no sense if the cell is simply a primitive gate as depicted above. If the
20 cells were simply AND or OR gates, there would be no need to store both (1) and (2), because the
21 function and the logic would be the same.” Defendants Motion at 8.

Even the citation to column 9, lines 22-23 (“an optimum cell for a block”) relied upon by Defendants in their Motion (at 9), is more likely to be read to *allow* (rather than *exclude*) the use of multiple cells (e.g., primitives) to be selected for a single block when viewed in the proper context—suspiciously absent from Defendants’ citations. In context, Defendants’ quoted phrase, states: “It selects an optimum cell for a block. *This involves the formulation of rules for selecting appropriate cells from the cell library.*” (Brothers Dec. Ex. 26, ‘432 patent at column 9, lines 22-24 (emphasis added).) The emphasized sentence actually contradicts Defendants’ interpretation, and instead, suggests that a selection of multiple cells will be needed for each “block.”

Because Defendants’ one-sided reading of the ‘432 patent specification fails to clearly and convincingly support any restriction on the scope (and more likely supports the broader interpretation) of the term “hardware cell,” Defendants’ Motion for Summary Judgment must be denied for these reasons alone.

2. Incorrect Reading of the Claims

Defendants extend their slanted analysis to the language of claim 13, particularly the “selecting” step: “selection from said stored data for each of the specified definitions a corresponding integrated circuit hardware cell for performing the desired function of the application specific integrated circuit.” Again, relying solely on the details provided in the preferred embodiment of the ‘432 patent specification, Defendants argue that the plain language of the claim dictates that there be only a *single* “hardware cell” for each “specified definition” of an action and condition. Defendants Motion at 6. Defendants go further and jump to the conclusion that where the “action and condition” is the function of “addition,” for example, the hardware cell must be the *entire* adder circuit configuration (e.g., ripple carry adder, carry look ahead adder, etc.). Defendants Motion at 8-9.

Defendants, however, fail to distinguish (or even recognize) the fact that the usage of the

term “hardware cell” just as easily encompasses the construction: “*at least one* hardware cell” for each “specified definition.” Indeed, in addressing a similar situation, the Federal Circuit in *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351 (Fed. Cir. 2000) reiterated the long-standing principle “that an indefinite article ‘a’ or ‘an’ in patent parlance carries the meaning of ‘one or more’ in open-ended claims containing the transitional phrase ‘comprising.’ . . . Unless the claim is specific as to the number of elements, the article ‘a’ receives a singular interpretation only in rare circumstances when the patentee evinces a clear intent to so limit the article.” *Id.* at 1356 (refusing to limit the use of a singular term (*i.e.*, “a . . . continuous . . . chamber”) to a *single* chamber, and, instead, construed the term to be *at least one* chamber).

Nor do Defendants distinguish (or even recognize) the fact that the ‘432 patent *explicitly* states that the cell selection process may involve one *or more* hardware cells for a given function desired in the ASIC under design. The patent specification states, for example, “The cell selector 32 selects from a cell library 34 of previously designed hardware cells the appropriate cell *or cells* required to perform each action and condition represented in the flowchart.” (Brothers Dec. Ex. 26, ‘432 patent at column 4, line 68 to column 5, line 3 (emphasis added).)⁹ See also Soderman Declaration at ¶¶ 29, 36. Neither the preferred embodiment nor anything in the ‘432 patent (or file history) attempts to require a one-to-one correspondence between a “hardware cell” and a corresponding function of the ASIC under design. *Id.*

In fact, according to Dr. Soderman, the use of “at least one hardware cell” is more likely from the viewpoint of one of ordinary skill in the art. Soderman Declaration at ¶ 29-30. He states that one skilled in the art reviewing the patent specification would not envision loading all of the possible implementations and permutations of each potential function (*e.g.*, addition, subtraction, multiplication, etc.). As can be seen from the contrasting diagrams of the two different adder implementations

⁹ Similarly, at column 8, lines 58-60, the ‘432 patent specification states: “The Cell Selector uses a rule based expert system to select the appropriate cell *or cells* to perform each action” (emphasis added).

1 illustrated in Defendants' Motion (at 7), storing the gate-level representation for each and every circuit
2 implementation would make the hardware cell library so massive as to be unworkable. Soderman
3 Declaration at ¶ 29-30.

4 The construction of "at least one hardware cell" is not inconsistent with the preferred
5 embodiment relied upon by Defendants. The construction encompasses the different possibilities that
6 the term "hardware cell" is a primitive (*e.g.*, AND gate), as well as a circuit configuration (*e.g.*, adder
7 implementation). Thus, assuming, *arguendo*, that the '432 patent specification is to be read as requiring
8 that an "adder" implementation be stored as a *single* hardware cell, as contended by Defendants, the
9 construction of "at least one hardware cell" fully encompasses that embodiment, but *also* provides for
10 the natural extension of the invention to embodiments that store primitives as "hardware cells."
11

12 Because nothing in the plain language of the claim mandates a more restrictive reading,
13 consistent with the view of one of ordinary skill in the art and Federal Circuit precedent, the term
14 "hardware cell" should not be limited to a *single* occurrence, as proposed by Defendants in their Motion
15 for Summary Judgment. Defendants' Motion for Summary Judgment should be denied at least on this
16 basis alone.

17 In the alternative, even if it is assumed that the term "hardware cell" must be limited to a
18 *single* occurrence of a "hardware cell," nothing in the claim language, specification, or file history has
19 been cited (or, indeed, could be cited) to require that the interpretation of the term "hardware cell"
20 necessarily *exclude* primitives *per se*. Nor is there any rational basis for requiring that a given single
21 "hardware cell" exclusively perform the *entire* function corresponding to a given "specified definition."
22 Thus, where Ricoh has shown that a "hardware cell" has been selected for use in a circuit
23 implementation (*e.g.*, adder) of a specified definition (*e.g.*, corresponding to an addition function), the
24 claim language has been met, despite the fact that other components may be required to complete the
25 circuit implementation. *See* Soderman Declaration at ¶ 32.
26

27 Defendants' entire non-infringement argument (as well as their expert's opinion, see
28

1 Casavant 8/18/06 Declaration at ¶¶ 24-29)¹⁰ in their Motion for Summary Judgment hinges on their
 2 narrow reading of the term “hardware cells” to *exclude* primitives. For the reasons given above, the
 3 term “hardware cells” should *not* be interpreted to exclude primitives. As Defendants rely on *no* other
 4 basis to justify judgment as a matter of law, Defendants’ Motion for Summary Judgment should be
 5 denied.

6
 7 D. Ricoh’s Application Of The Term “Rules” To The Use Of The Design Compiler System
 8 Remains A Material Issue Of Fact

9 1. SOT Tricks are Cell Selection Rules that Select Cells

10 [REDACTED]
 11 [REDACTED]
 12 [REDACTED] Both of these (misguided) assertions
 13 are made under the assumption that the Court will adopt Defendants’ narrow construction of the term
 14 “hardware cells.”¹¹ As noted above, Defendants’ interpretation exceeds the bounds of reason, and thus,
 15 these additional arguments, together with the Motion for Summary Judgment as a whole should be
 16 denied on that basis alone. [REDACTED]

17 [REDACTED]
 18 [REDACTED]
 19 [REDACTED]
 20 [REDACTED]
 21 ¹⁰ To the extent that the Casavant 8/18/06 Declaration contains subject matter not previously disclosed,
 22 the subject matter should not be admissible (for any purposes) as a failure to disclose in accordance with
 23 the Court’s Scheduling Order. Fed. R. Civ. Proc. 37(c). With respect to this Motion, the Casavant
 24 8/18/06 Declaration newly argues technology libraries have no geometrical data. Casavant Decl. at ¶ 25.
 25 Defendants, therefore, should not be allowed to rely on such non-disclosed information. *MEMC Elec.*,
 26 2006 U.S. Dist. LEXIS 9353, *20 (summary judgment must be support by “facts as would be admissible
 27 in evidence.”).
 28 [REDACTED]

1 [REDACTED]

2 Seemingly as a last resort, Defendants go even further in their attempts to avoid a

3 determination of infringement by a jury by urging the Court to read into the claims limitations that are

4 *not* even in the preferred embodiment of the patent. In particular, Defendants argue that the portion of

5 the “selecting” step that recites “applying to the specified definition of the action or condition to be

6 performed, a set of cell selection rules stored in said expert system knowledge base” requires that any

7 expert “rules” be applied *directly* to the “specified definition” of the action and condition. [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 Unlike their other attempts to narrow the claims, Defendants do *not* rely on allegations about

13 the preferred embodiment (or anything else) in the patent specification or file history to support this

14 narrow reading. Instead, Defendants try to argue based on what it says is the “plain language” of the

15 claim to support the proposed restrictions. It is likely that Defendants suddenly abandon their other

16 approach on claim analysis because, in this case, the preferred embodiment actually undermines

17 Defendants’ position.

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 [REDACTED]

22 [REDACTED]

23 [REDACTED]

24 The ‘432 patent *never* states (or implies) any requirement that the “rules” be applied *directly*

25 to the macros (“definitions of actions and conditions”). Indeed, as shown in the preferred embodiment

26 of the ‘432 patent, the cell selection rules are *not* applied directly to the macros themselves. Instead, the

27 rules are applied to manifestations of the macros in the form of corresponding circuit configurations that

28

1 are to perform the functionality represented by the macros. Soderman Declaration at ¶ 28.

2 An interpretation of a claim to *exclude* a preferred embodiment is rarely, if ever, correct.
3 *Pfizer, Inc. v. Teva Pharms. USA, Inc.*, 429 F.3d 1364, 1374 (Fed. Cir. 2005) ("A claim construction that
4 excludes a preferred embodiment . . . is rarely, if ever, correct.") (internal quotations omitted); *Sandisk*
5 *Corp. v. Memorex Prods.*, 415 F.3d 1278, 1285 (Fed. Cir. 2005) ("A claim construction that excludes a
6 preferred embodiment, moreover, 'is rarely, if ever, correct.'"); *Vitronics Corp. v. Conceptronic, Inc.*, 90
7 F.3d 1576, 1583 (Fed. Cir. 1996) (Such an interpretation [that the preferred, indeed only embodiment
8 would not fall within the claims] is rarely, if ever, correct); *Primos*, 451 F.3d at 848 (Fed. Cir. 2006)
9 ("While we are mindful that we cannot import limitations from the preferred embodiments into the
10 claim, we also should not normally interpret a claim term to exclude a preferred embodiment.") *citing*
11 *Burke, Inc. v. Bruno Indep. Living Aids*, 183 F.3d 1334, 1341 (Fed. Cir. 1999). Nothing in the '432
12 patent or file history makes this case so exceptional that the claims must be interpreted to *exclude* the
13 preferred embodiment originally disclosed in the patent specification. [REDACTED]
14 [REDACTED]

15 [REDACTED]
16 [REDACTED] Defendants' Motion for
17 Summary Judgment, and their veiled attempts to recast their non-infringement arguments as claim
18 interpretations, therefore should be denied, for at least this reason alone.
19

20 V. CONCLUSION

21 For at least the reasons given above, Defendants' Motion for Summary Judgment should be denied.
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1
2 Dated: September 1, 2006

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